

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application. Claims 1 and 4-11 are currently pending in this application. No new matter has been added by way of the present amendment. For instance, claim 1 has been amended to more clearly recite the novel features of the present invention. New claim 10 finds support at, for example, page 3, lines 19-22 of the Specification. New claim 11 is supported by previously presented claim 1. Accordingly, no new matter has been added.

In view of the amendments and remarks herein, Applicants respectfully request that the Examiner withdraw all outstanding rejections and allow the currently pending claims.

Substance of Interview

Applicants thank the Examiner for the time, helpfulness and courtesies extended to Applicants' representative during the Interview of November 3, 2008. The assistance of the Examiner in advancing prosecution of the present application is greatly appreciated.

In compliance with M.P.E.P. § 713.04, Applicants submit the following remarks. The outstanding rejection of the claims under 35 U.S.C. 112, second paragraph, and 35 U.S.C. 103(a) was discussed. Applicants noted that the prior art of record fails to teach or suggest every aspect of the present invention. The Examiner acknowledged that claim 4 is not indefinite, and noted that the 35 U.S.C. 112 rejection of claim 4 would be withdrawn. Various ways of addressing the prior art rejection were discussed, and suggestions were discussed that may be drafted to cover particular aspects of the invention as not described by the prior art.

Issues Under 35 U.S.C. 112, second paragraph

Claims 1 and 4 stand rejected under 35 U.S.C. 112, 2nd paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. Applicants respectfully traverse.

With regard to claim 1, the Examiner asserts that the newly added language “heat shrinkage values being minus at a temperature higher than the melting point...” is indefinite. As to claim 4, the Examiner asserts that claim 4 is inconsistent with claim 1, because claim 4 recites the limitation that the conjugate fiber is a sheath and core fiber, whereas claim 1 only requires that the second resin component is present on a part of the surface of the fiber.

Applicants submit that claim 1 has been amended to address the issues identified by the Examiner. Thus, the rejection of claim 1 is moot. As to claim 4, Applicants note that, as acknowledged by the Examiner during the Interview of November 3, 2008, this claim is not indefinite.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Issues under 35 U.S.C. 103(a)

Claims 1 and 4-9 stand rejected under 35 U.S.C. 103(a) as being obvious over Ishizawa et al. (U.S. 5,780,155) (hereinafter U.S. ‘155) in view of Chisso (JP 50095519) (hereinafter JP ‘519) in further view of Stibal, *Fibers, 3. General Production Technology* (hereinafter Stibal). Applicants respectfully traverse.

The Examiner asserts that U.S. ‘155 teaches a melt-adhesive composite fiber and non-woven fabrics from the composite fibers, wherein the fibers are fused at the intersections of the

fibers. The Examiner further asserts that U.S. '155 teaches sheath/core and side-by-side fibers, wherein the filaments are stretched to a stretch ratio of 0.6 to 0.85 of the maximum stretching ratio. The Examiner notes that "Ishizawa's teaching of a low stretching ratio of 0.6 to 0.85 is equated with the current applications limitation of low draw ratio".

The Examiner acknowledges that U.S. '155 fails to disclose the claimed fiber shrinkage (see outstanding Office Action, page 5, lines 2-3). The Examiner, however, relies on the teachings of JP '519, and asserts that JP '519 teaches "a process of melt spinning that can be optimized to improve or reduce the heat shrinkage of a polyethylene and polypropylene fiber". Thus, the Examiner concludes that "one of ordinary skill in the art could have optimized the process in order to improve the shrinkage of the filament to obtain the desired product". Moreover, the Examiner asserts that "the claimed property of heat shrinkage would be inherent in the conjugate fibers of Ishizawa and Chisso".

The Examiner further acknowledges that U.S. '155 fails to teach the orientation index of the polymers in the conjugate filament. The Examiner relies on Stibal, asserting that Stibal teaches the relationship between the draw ratio, crystallinity or orientation and melt spinning. The Examiner concludes that one skilled in the art would have been motivated to modify the teachings of U.S. '155 and JP '519, since "Stibal teaches that the process parameters that can optimize orientation or crystallinity in a fiber and that high speed spinning can reduce draw required which reduced fiber shrinkage".

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d

488, 20 USPQ2d 1438 (Fed. Cir. 1991). Additionally, there must be a reason why one of ordinary skill in the art would modify the reference or combine reference teachings to obtain the invention. A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int'l Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). There must be a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *Id.* The Supreme Court of the United States has recently held that the "teaching, suggestion, motivation test" is a valid test for obviousness, albeit one which cannot be too rigidly applied. *Id.* Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.*

Applicants respectfully submit that the Examiner's rejection is based on a misunderstanding of the teachings of the cited references. For instance, the Examiner asserts that "Ishizawa's teaching of a low stretching ratio of 0.6 to 0.85 is equated with the current applications limitation of low draw ratio". However, the disclosure of U.S. '155 is related to a factor. This factor is 0.60 to 0.85 times the maximum stretching ratio. Thus, "0.60 to 0.85" is not the stretching ratio, but rather the factor by which the maximum stretching ratio must be multiplied by in order to find the optimum stretching ratio.

Applicants submit that the term "no drawing" means that the fiber is stretched at a drawing ratio of less than two, based on the length of the undrawn fiber (raw fiber). Ishizawa's disclosure of a stretching ratio of "0.6 to 0.85 times the maximum stretching ratio" would be equivalent to tens to hundreds of times the drawing ratio based on the undrawn fiber. For

instance, Example 1 of U.S. '155 discloses a stretching ratio of 4.0, which cannot possibly teach the presently claimed "no drawing" process.

Additionally, Applicants respectfully note that, contrary to the Examiner's assertion, U.S. '155 does not teach a process of **high speed** melt spinning (emphasis added). U.S. '155 is silent with respect to the melt-spinning being "high speed". Rather, the melt spinning process disclosed in U.S. '155 is carried out at a conventional spinning speed.

Moreover, Applicants submit that U.S. '155 teaches away from the present invention. At column 4, lines 18-21, this reference discloses that when the stretching ratio is less than 0.6 times the maximum stretching ratio, the difference in elastic recovery of the two components becomes small and **crimps are not developed** (emphasis added). Clearly, U.S. '155 fails to teach or suggest the limitations of the present invention. The secondary references fail to cure these deficiencies.

JP '159 discloses a side-by-side conjugate fiber composed of crystalline polypropylene and polyethylene. JP '519 explicitly discloses **drawing the fibers** (emphasis added) to give conjugate fibers with reduced heat shrinkage (see Abstract). In stark contrast, the present claims require a heat or crimp treatment, but no drawing.

At page 4, JP '159 discloses a fiber stretching ratio of 3 to 6 times that of the undrawn fiber. If the stretching ratio is less than 3 times that of the undrawn fiber, the purpose of the invention cannot be attained, because latent crimping property becomes large, resulting in unfavorable thermal shrinkage. Thus, JP '519 clearly teaches away from the present invention.

The Examiner argues that JP '519 teaches "a process of melt spinning that can be optimized to improve or reduce the heat shrinkage of a polyethylene and polypropylene fiber".

Thus, the Examiner concludes that "one of ordinary skill in the art could have optimized the process in order to improve the shrinkage of the filament to obtain the desired product". However, Applicants respectfully submit that JP '519 only teaches reductions in heat shrinkage by optimizing the ratio of the components of previously-drawn fibers. Thus, one skilled in the art would not have been able to arrive at the present invention based on the cited prior art of record.

Clearly, the prior art of record fails to teach or suggest each and every limitation of the present invention. For this reason alone, this rejection is improper and should be withdrawn. Moreover, Applicants submit that the claimed combined process of high speed melt spinning and no drawing achieves unexpected advantages of both high strength and excellent feel of fabrics.

The superior and unexpected results obtained by the present invention are further evidenced by comparing the Examples and Comparative Examples in the present Specification. It is well known in the textile industry to stretch undrawn raw fibers after melt spinning, as shown by both US '155 and JP '519. It is also common knowledge in the art that a nonwoven fabric made from an undrawn single yarn is not strong, and thus an undrawn single yarn is inappropriate for nonwoven fabric.

Overthrowing these established theories in the art, the present inventors have developed a nonwoven fabric which maintains sufficient strength, even without drawing the fibers, and which exhibits improved softness and good feel by employing a thermally stretchable fiber in which the orientation index of the resins is controlled.

Evidently, the present invention is not rendered obvious by the prior art of record. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and objections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Vanessa Perez-Ramos (Reg. No. 61,158) at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

By 

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